ENGLISH TRANSLATION OF THE INTERNATIONAL APPLICATION

FOR NATIONAL PHASE SUBMISSION

Patent claims

1. A method for connecting a static VAR compensator having a plurality of parallel compensation components (K1 - K3) to an operating voltage (U), in which the compensation components (K1 - K3) are first successively connected by a control unit (CU) to the operating voltage (U) via a series resistor (R) and are then connected to the operating voltage (U) without a series resistor.

2. The connection method as claimed in claim 1, characterized in that the compensation component (K1) which is first connected to the operating voltage (U) via the series resistor (R) is an active component (K1) with at least one controllable reactive power element, e.g. has a TCR.

3. The connection method as claimed in claim 2, characterized in that the operating voltage (U) is an AC voltage with a fundamental frequency (f), and in that the active component (K1) is controlled by the control unit (CU) in such a way that a current (I) having the fundamental frequency (f) which flows across the series resistor (R) is essentially compensated.

4. The connection method as claimed in claim 1, 2 or 3, characterized in that the compensation components (K2, K3) connected to the operating voltage (U) via the series resistor (R) after the first compensation component (K1) are filter circuits (K2, K3).

5. The connection method as claimed in one of the above claims, characterized in that, following connection of the compensation components(K1 - K3) to the operating voltage (U)

without a series resistor, the series resistor (R) is disconnected from the operating voltage (U) by the control unit (CU).

6. The connection method as claimed in one of the above claims, characterized in that the connection of the compensation components (K1 - K3) to the operating voltage (U) without a series resistor is performed simultaneously for all compensation components (K1 - K3).

7. The connection method as claimed in one of the above claims, characterized in that a time offset ($\delta t2$) between the connection of two compensation components (K1 - K3) connected to the operating voltage (U) immediately in succession via the series resistor (R) is between 50 and 300 ms, in particular between 80 and 200 ms, e.g. 100 to 150 ms.

8. The connection method as claimed in one of the above claims, characterized in that, in order to connect the compensation components (K1 - K3) to the operating voltage (U), a distribution bus (DL) upstream of the compensation components (K1 - K3) is connected to the operating voltage (U) via the series resistor (R) and the compensation components (K1 - K3) are connected to the distribution bus (DL).

9. The connection method as claimed in claim 8, characterized in that for the connection of the compensation components (K1 - K3) to the operating voltage (U) without a series resistor, the distribution bus (DL) is connected to the operating voltage (U) without a series resistor.

10. The connection method as claimed in claim 8 or 9, characterized in that the first compensation component (K1) is

connected to the distribution bus (DL) only after a time delay ($\delta t1$) following the connection of the distribution bus (DL) to the operating voltage (U) via the series resistor (R).

11. The connection method as claimed in claim 10, characterized in that the time delay ($\delta t1$) is between 50 and 300 ms, in particular between 80 and 200 ms, e.g. 100 to 150 ms.

12. The connection method as claimed in claim 7 and 10 or 7 and 11, characterized in that the time delay ($\delta t1$) is the same as the time offset ($\delta t2$).

13. The connection method as claimed in one of the above claims, characterized in that the operating voltage (U) is a high voltage, in particular a medium voltage of between 6 and 36 kV.

14. The connection method as claimed in one of the above claims, characterized in that the operating voltage (U) has a plurality of phases and in that the phases are connected simultaneously to the compensation components (K1 - K3) by the control unit (CU).

15. A control program stored on a data carrier (DC) for implementing a connection method as claimed in one of the above claims.

16. A control unit for a static VAR compensator with which a connection method as claimed in one of claims 1 to 14 can be performed.

17. A static VAR compensator for implementing a connection method as claimed in one of claims 1 to 14.